



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,277	08/27/2003	Geoffry A. Westphal	31083.07US2	5507
34018	7590	07/13/2005	EXAMINER LAROSE, COLIN M	
GREENBERG TRAURIG, LLP 77 WEST WACKER DRIVE SUITE 2500 CHICAGO, IL 60601-1732			ART UNIT 2623	PAPER NUMBER

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/649,277	WESTPHAL ET AL.
	Examiner	Art Unit
	Colin M. LaRose	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 December 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-25 and 27-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-25 and 27-39 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Arguments and Amendments

1. Applicant's amendments and arguments filed 13 December 2004, have been entered and made of record.

Specification

2. In view of Applicant's amendment to the Specification, the previous objection to the Specification has been withdrawn.

Response to Amendments and Arguments

3. Applicant's remarks on pp. 15-16 regarding claims 25 and 27 have been considered but are not persuasive. Applicant asserts that the claims distinguish from Kagle because Kagle does not perform "purposeful" rotation or flipping of the images; Kagle, Applicant argues, is concerned with the rotation of the camera rather than the image. Also, Applicant argues that Kagle's system is operative to "change the orientation of the original image" rather than produce a displayed image that "corresponds to the orientation of its corresponding original image."

These arguments have been considered but are not persuasive for the following reasons. The claims require providing "data indicative of the degree to which each of the compressed images was rotated/flipped as compared to its corresponding original image." Kagle provides a flag that indicates "the correct orientation [of the image] by specifying the orientation of the camera when the image was captured" (column 3, lines 61-64). Kagle's flag thus indicates the orientation of the image with reference to the default orientation of landscape (see column 3,

lines 33-37). In other words, all of Kagle's images are stored in a landscape orientation, and the flag indicates the orientation of each image with respect to the default landscape orientation – if an image was captured in landscape, the flag would indicate that the captured image has not been rotated; if the image was captured in portrait, the flag would indicate that the captured portrait image has been rotated 90 degrees for storage in the default landscape orientation. Then, upon displaying the portrait image, Kagle's system would “rotate the displayed image so that the orientation of the displayed image corresponds to the orientation of its corresponding original image.” That is, a captured portrait image that is stored in the default landscape orientation is rotated 90 degrees for display so that the portrait orientation of the displayed image corresponds to the portrait orientation of the original image. In the absence of a rotation flag, the system would store every image as a landscape image and would not know which images were captured in a portrait orientation. Essentially, the rotation/flipping flag facilitates the displaying of a group of images to a user by presenting the images in their correct orientations and not requiring the user to manually rotate some of the images.

Regarding claims 1, 13, 28, and 39, the amendments are sufficient to overcome the previous rejections. Applicant's remarks regarding the previous rejection have been considered, however, they are now moot in view of the new grounds of rejection established below. For independent claims 1, 13, 28, and 39, Takagi does not disclose the step of storing the compressed, resultant images. Takagi's system presents a group of “thumbnail” images to a user. The thumbnail images each correspond to compressed alterations of an original image. The user then selects a desired image, and the system stores the corresponding original image with the

desired alterations. However, the selected thumbnail image (i.e. the selected compressed, resultant image) is not stored.

U.S. Patent 5,164,831 by Kutch et al. discloses a digital camera that stores images in both full and reduced resolution formats. The reduced resolution format corresponds to a thumbnail version of the original image. As explained below, Kutcha provides the teaching and motivation to modify Takagi so that Takagi's selected thumbnail image (in addition to the full resolution version) is stored, as required by the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 6, 7, 12-16, 19, 20, 28-30, 33, 34, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,486,893 by Takagi in view of U.S. Patent 5,635,984 by Lee and U.S. Patent 5,164,831 by Kuchta et al. ("Kuchta").

Regarding claims 1, 13, 14, and 28, and 39, Takagi discloses a method and system for compressing and storing a plurality of images, comprising:

creating for each of a plurality of original images a plurality of resultant images by altering the content of each of the plurality of original images a corresponding plurality of different ways (figure 15: a plurality of resultant images for an original image (figure 13) is displayed; the figure shows only the resultant images for one original image in a digital camera, but Takagi's method is applicable to any pictures to be taken by the camera);

selecting from the plurality of resultant images created from each of the plurality of original images one resultant image (figure 15 and column 2, lines 1-16: the resultant images for each original image are displayed, and one resultant image from each group of resultant images is selected).

Takagi discloses displaying the plurality of resultant images on the camera screen as shown in figure 15, but Takagi is silent to compressing the plurality of resultant images.

Lee discloses a digital camera system. In particular, Lee discloses that in order to display more than one picture on the screen simultaneously (such as shown in figure 11D), that the picture data must be compressed (column 4, lines 22-28).

It would have been obvious to compress each resultant image as claimed, since Lee teaches that in order to display multiple images on a camera screen, as in figure 15 of Takagi, the images

must be reduced so that they fit onto the screen. As such, the combination of Takagi and Lee teaches compressing the plurality of resultant images and then selecting a compressed, resultant image from the plurality of compressed, resultant images for each of the original images.

The combination of Takagi and Lee does not disclose placing each of the selected one of the plurality of compressed, resultant images into a concatenation file; and creating a look-up table corresponding to the concatenation file by which each of the selected one of the plurality of compressed, resultant images is retrievable from the concatenation file.

In other words, Takagi does not disclose storing the selected compressed resultant images in a file and creating a look-up table used to access the images.

Kutch discloses a digital camera that stores images in a format that includes both reduced and high resolution versions of an original image. Kutch teaches creating a compressed, or thumbnail, version of captured images that is stored with the full resolution version of the image, such as shown in figure 2B. The thumbnail image is easily accessed and displayed (column 2, lines 21-32) and offers the advantage of quick review of images captured by or stored in the camera prior to further processing or selection (column 7, lines 34-52). In particular, Kutch notes that the utilization of thumbnail images is advantageous for simultaneously viewing a plurality of thumbnail images in order to select a corresponding full resolution image for further processing (column 7, lines 47-52).

In addition, Kutch discloses that when the thumbnail images are stored, they are placed in a

concatenation file, and a directory (i.e. look-up table) by which the thumbnails are retrievable is created and stored in the file as shown in figure 2B.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Takagi and Lee by Kutcha to achieve the claimed invention by placing each of the selected compressed, resultant images into a concatenation file and creating a look-up table, as claimed, since the combination of Takagi and Lee teaches displaying a plurality of compressed, resultant (or thumbnail) images and selecting one of the compressed, resultant images, and Kutcha discloses that when thumbnail images are displayed and one is selected, it is advantageous to store not only the full-resolution image corresponding to the selected thumbnail image but also the selected thumbnail image in a concatenation file that includes a look-up table so that images can be easily accessed for review via thumbnail versions of the images (see figure 2B and column 7, lines 47-52).

Regarding claims 2 and 29, Takagi discloses a macro for automating the creating of the plurality of compressed, resultant images (figures 8-10 are macros for setting the parameters for the various resultant images).

Regarding claim 3 and 30, Takagi's discloses using multiple techniques to alter the original image (i.e. changing the exposure, focus, etc.).

Regarding claims 6 and 33, Takagi discloses sharpening the image by changing the focus (figure 9).

Regarding claim 7 and 34, Lee's table comprises file names (81), starting byte information (82), and length of the images (83), as claimed.

Regarding claim 12, Takagi discloses any of the compressed, resultant images may arbitrarily be selected, which includes the smallest one.

Regarding claim 15, Takagi discloses a macro for automating the creating of the plurality of resultant images (figures 8-10 are macros for setting the parameters for the various resultant images).

Regarding claim 16, Takagi's discloses using multiple techniques to alter the original image (i.e. changing the exposure, focus, etc.).

Regarding claim 19, Takagi discloses sharpening the image by changing the focus (figure 9).

Regarding claim 20, Lee's table comprises file names (81), starting byte information (82), and length of the images (83), as claimed.

7. Claims 4, 5, 8, 9, 11, 17, 18, 21, 22, 24, 31, 32, 35, 36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,486,893 by Takagi in view of U.S. Patent 5,635,984 by Lee and U.S. Patent 5,164,831 by Kutch et al. ("Kutch"), as applied to claims 1, 13, and 28, and further in view of U.S. Patent 6,148,149 by Kagle.

Regarding claims 4, 5, 31, and 32, Takagi is silent to altering the original image by rotating or flipping.

Kagle discloses a digital camera system that automatically detects the orientation of the camera when a picture is taken, and then adjusts the picture by rotating (flipping) the image by 90 degrees so that a portrait image corresponds to the default orientation of landscape (column 3, lines 30-40). The image is then assigned an indication of its orientation (column 3, lines 56-67).

Art Unit: 2623

It would have been obvious to modify Takagi to further alter the original image by rotation and flipping as taught by Kagle since Kagle teaches that a user may desire for captured images to all conform to a default orientation.

Regarding claims 8, 9, 35, and 36, Takeda discloses the table includes information about the images such as size and location in memory, but Takeda does not disclose that the degree to which the images were flipped or rotated is stored in the look-up table.

Kagle discloses a digital camera system that automatically detects the orientation of the camera when a picture is taken, and then adjusts the picture by rotating (flipping) the image by 90 degrees so that a portrait image corresponds to the default orientation of landscape (column 3, lines 30-40). The image is then assigned an indication of its orientation (column 3, lines 56-67).

It would have been obvious to modify Takeda by Kagle to achieve the claimed invention by including the orientation data (i.e. degree of flipping/rotating) in the look-up table as claimed, since Kagle teaches that additional information pertaining to the orientation is stored along with the rotated/flipped images (column 3, lines 61-64), and Takeda discloses placing any additional information pertaining to the stored digital images, such as size and location, in a look-up table as shown in figure 5 to facilitate retrieval.

Regarding claims 11 and 38, Takagi is silent to compressing each of the resultant images. Takeda discloses storing each of the selected resultant images in a compressed format, but is silent to compressing them into GIF files.

Kagle discloses a digital camera that compresses each of the captured imaged into the GIF format (column 3, lines 7-25).

It would have been obvious to compress each of the resultant images into a GIF file, since Takeda teaches storing the resultant images in compressed form (126, figure 2A), and Kagle teaches that the GIF format is a standard compression format used to compress captured digital images.

Regarding claims 17 and 18, Takagi is silent to altering the original image by rotating or flipping.

Kagle discloses a digital camera system that automatically detects the orientation of the camera when a picture is taken, and then adjusts the picture by rotating (flipping) the image by 90 degrees so that a portrait image corresponds to the default orientation of landscape (column 3, lines 30-40). The image is then assigned an indication of its orientation (column 3, lines 56-67).

It would have been obvious to modify Takagi to further alter the original image by rotation and flipping as taught by Kagle since Kagle teaches that a user may desire for captured images to all conform to a default orientation.

Regarding claims 21 and 22, Takeda discloses the table includes information about the images such as size and location in memory, but Takeda does not disclose that the degree to which the images were flipped or rotated is stored in the look-up table.

Kagle discloses a digital camera system that automatically detects the orientation of the camera when a picture is taken, and then adjusts the picture by rotating (flipping) the image by 90 degrees so that a portrait image corresponds to the default orientation of landscape (column 3, lines 30-40). The image is then assigned an indication of its orientation (column 3, lines 56-67).

It would have been obvious to modify Takeda by Kagle to achieve the claimed invention by including the orientation data (i.e. degree of flipping/rotating) in the look-up table as claimed,

Art Unit: 2623

since Kagle teaches that additional information pertaining to the orientation is stored along with the rotated/flipped images (column 3, lines 61-64), and Takeda discloses placing any additional information pertaining to the stored digital images, such as size and location, in a look-up table as shown in figure 5 to facilitate retrieval.

Regarding claim 24, Takagi is silent to compressing each of the resultant images. Takeda discloses storing each of the selected resultant images in a compressed format, but is silent to compressing them into GIF files.

Kagle discloses a digital camera that compresses each of the captured imaged into the GIF format (column 3, lines 7-25).

It would have been obvious to compress each of the resultant images into a GIF file, since Takeda teaches storing the resultant images in compressed form (126, figure 2A), and Kagle teaches that the GIF format is a standard compression format used to compress captured digital images.

8. Claims 10, 23, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,486,893 by Takagi in view of U.S. Patent 5,635,984 by Lee and U.S. Patent 5,164,831 by Kutcha et al. ("Kutcha"), as applied to claims 1, 13, and 28, and further in view of U.S. Patent 5,835,627 by Higgins et al. ("Higgins").

Regarding claims 10, 23, and 37, Takagi is silent to adjusting the size of some of the original images prior to creating the resultant images.

Higgins discloses an image processing system. In particular, Higgins discloses that,

Art Unit: 2623

conventionally, digital cameras include algorithms that resize captured images and that resizing is typically done before subsequent processing (column 1, lines 55-67).

It would have been obvious to modify Takagi by Higgins to achieve the claimed invention since Higgins teaches that resizing captured images prior to subsequent processing is a conventional capability of digital cameras and allows a user to place an original image in a desired size.

9. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,343,560 by Takeda et al. ("Takeda") in view of U.S. Patent 6,148,149 by Kagle.

Regarding claims 25 and 27, Takeda discloses a hand-held device (figure 1), comprising:

- a display (5);
- a memory (9-13) having stored therein a concatenation file (figure 4) having data corresponding to a plurality of compressed images each representative of an original image (i.e. each original image is compressed by compression processor 14) and a look-up table (figure 5) having data indicative of a starting byte location of each of the compressed images within the concatenation file ("head address") and data indicative of the length of each of the compressed images within the concatenation file ("size");

- a program (e.g. figure 2) cooperable with the look-up table for accessing the data corresponding to each of the plurality of compressed images and for decompressing and using any accessed data to display an image representative of an original image (i.e. the compressed images are decompressed by expansion processor 15 and displayed on display 5).

Takeda does not disclose including data "indicative of whether each of the compressed images was flipped or the degree of rotation as compared to its corresponding original image..." and the image is flipped or rotated "so that the orientation of the displayed image corresponds to the orientation of its corresponding original image."

Kagle teaches capturing an image at some orientation. During capture, the camera senses the orientation of the camera and records data indicating the orientation with the image after it is compressed using a standard such as JPEG or GIF. Then, prior to displaying the image, the image is rotated or flipped so that it corresponds to the original orientation of the captured image. For example, a portrait image taken of a person is stored in the default landscape orientation. Then, when the picture is to be viewed, the image is rotated or flipped so that it corresponds to the original portrait orientation rather than the default landscape orientation. This feature "eliminates the need to preview and rotate pictures" (column 2, lines 1-11) and would have been an obvious modification.

It would have been obvious to modify Takeda by Kagle to further rotate or flip the displayed image, as claimed, and as taught by Kagle since Kagle teaches that flipping or rotating an image upon display into the image's original orientation eliminates the need for a user to preview and rotate the images manually.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (571) 272-7414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. (After July 15, 2005, the fax number will be changed to **(571)-273-8300**.) Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2623

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CML
Group Art Unit 2623
5 July 2005



VIKRAM BALI
PRIMARY EXAMINER